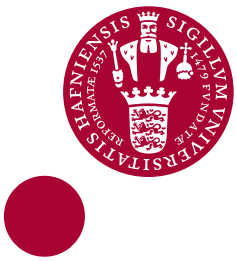

School children (teenagers) and teachers' information searching behaviour: A meta-evaluation of simulated work task situations in the school context

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This paper reports an empirical study of school children (teenagers, age 14-16) and their teachers' Internet information searching by use of simulated work task situations. The study is a meta-evaluation of the test instrument of simulated work task situations with respect to different types of information needs and user groups. The study is motivated by previous research (Borlund & Schneider, 2010) that shows how simulated work task situations are used to reflect different types of information needs (e.g., Bell & Ruthven, 2004; Toms et al., 2007; White, Jose & Ruthven, 2001; 2003) with different user groups (e.g., Blomgren, Vallo & Byström, 2004; Craven, 2003; Göker & Myrhaugh, 2008). However to date simulated work task situations have only been validated for topical exploratory searching conducted by university students (e.g., Borlund 2003). This study addresses these two weaknesses. In addition, the study provides insight about school children and teachers' information searching behaviour in the school context.

Since the test instrument of a simulated work task situation was first introduced in 1997 by Borlund and Ingwersen (1997), and further developed into the IIR evaluation model (Borlund, 2003), it has become a widely used instrument in IIR evaluations (Borlund & Schneider, 2010). In brief, a simulated work task situation is a short textual description that presents a realistic information requiring situation that motivates the test participant to search the IR system (Borlund, 2003). A simulated work task situation serves two main functions: 1) it causes a 'simulated information need' by allowing for user interpretations of the simulated work task situation, leading to cognitively individual information need interpretations as in real life; and 2) it is the platform against which situational relevance is judged by the test participant (Borlund & Ingwersen, 1997, pp. 227-228). The present study takes the instrument of a simulated information needs a step further, in that, it builds on the experiences with characteristics of the three different types of information needs, known as: (1) the verificative information need, (2) the conscious topical information need, and (3) the muddled topical information need (Borlund & Dreier, 2014; Ingwersen, 2000). These characteristics are used as criteria for the framing of the different types of information needs in the form of simulated work task situations. The school setting was chosen to allow for the validation of search behaviour of two user groups with information requiring tasks within the same context. The assumption is that the information search behaviour between the two groups differs, which is supported by previous research (e.g., Agosto & Hughes-Hassell, 2005; Fidel et al., 1999; Hirsh, 1999; Rieh & Hilligoss, 2008; Shenton & Dixon, 2004).

The study was conducted at a boarding school in the northern part of Denmark. The data collection took place from November 11 to December 3, 2013. A total of 31 test participants took part – 25 school children and six school teachers. Data collection included: pre-search questionnaire that asked about searching skills and experience as well as demographic data; computer logs of search interaction behaviour captured via the software package Morae (version 3.2.1, www.techsmith.com); and complementary post-search interviews. The test participants took part in the study one at the time. They conducted searches for three different simulated work task situations and for one personal self-prepared information need in a permuted (varied) order. They had prepared the personal information need in advance and brought it with them to their session. The three simulated work task situations were designed to reflect the three different types of information needs. The personal self-prepared information need could take the form of either of the three and served as baseline for the test participant's search behaviour.

The search behaviour of both user groups is positively corroborated with respect to the searching of the three simulated work task situations and the personal self-prepared information needs. The search interaction behaviour is analysed and reported at a summative level as descriptive statistics

according to the following five classic IIR parameters: (1) number of search iterations, (2) number of search terms, (3) number of unique search terms, (4) time spent searching, and (5) numbers of 'favourites' marked in the Internet Explorer browser as an indication of a positive relevance judgement. At a general level both groups display similar patterns in two out of five of IIR search parameters, and different patterns in the remaining three. The patterns are similar for number of search iterations per information need and number of unique search terms used over all iterations per information needs. But the patterns differ between the two groups in the actual number of search iterations and unique search terms with the school children using clearly less iterations and unique search terms to satisfy the information needs. In fact, this is a general pattern for the school children over all five parameters compared to the teachers. This is also very visible with respect to search time spent. The mean values of the four searches range from 1.56 to 6.18 minutes for the school children compared to 6:51 – 19:10 for the teachers. In the interviews both groups confirm this is their normal search behaviour. This again brings into question what time spent on searching indicates (Borlund, Dreier & Byström, 2012). Most research on teenagers'/school children's information searching concern search strategies and implicating factors affecting searching from the perspective of information literacy and not that of IIR (e.g., Barranoik, 2001, Fidel et al., 1999; Julien & Baker, 2009; Kuhlthau, 1994). Therefore it is unclear whether the displayed behaviour of the school children is a result of 'fast surfing' in the terminology of Heinström (2006). Both groups stated in the interviews that the searched simulated work task situations were of interest to them, hence the study ought not to be methodologically flawed by the simulated work task situations, but obviously it calls for a study on work task complexity (Byström & Järvelin, 1995) and the level of engagement in the searching (Heinström, 2006). A somehow related issue concerns the optimization of the operationalization of the different types of information needs in the form of simulated work task situations. For example, it would be relevant to consider more detailed levels of verificative information needs as suggested by Wildemuth, Freund & Toms (2013).

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